



Research

Notes

Equipment

MARCH 2023

Project Title: Evaluation of Advanced Security Systems for Caltrans Equipment Yards/ Maintenance Stations

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Evaluation of Advanced Security Systems for Caltrans Equipment Yards/Maintenance Stations

This project plans to research security systems to reduce component theft at Caltrans yards and Maintenance stations.

WHAT IS THE NEED?

The California Department of Transportation (Caltrans) currently experiences high amounts of vehicle component theft at equipment yards and maintenance stations. Cumulatively, the state has had over \$4 million of catalytic converters stolen to date. Equipment yards and maintenance stations typically have perimeter fences and sometimes standing guards, but guard service is prohibitively expensive for wider usage. These current security measures are inadequate to deter criminals.

Caltrans needs evaluation of a modern security system. One possible system is mobile robot security guards for potential deployment in Caltrans yards. Another potential system uses fixed cameras and human monitoring or analytics to monitor the yard. Each of these systems holds the promise of greatly reducing this theft problem and associated costs.

WHAT ARE WE DOING?

The project plans to first survey the mobile robot security guard and video analytics security industry landscape. Once the options have been determined, the research panel will select one system to be evaluated. The researchers will develop a pilot test plan to perform specific tests to assess the system's ability to deter theft at a test site selected by the panel. Notable potential test sites are the Maintenance Equipment Training Academy (META) and Evergreen equipment yard. Caltrans personnel are expected to participate in the pilot test. After the tests have been conducted, a cost-benefit analysis will be completed to compare the theft cost versus the system cost in addition to a survey of the pilot testers' experiences with the system.



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WHAT IS OUR GOAL?

The goal of this project is to determine if modern security systems can provide overall reduced costs due through reductions in theft in Caltrans facilities.

WHAT IS THE BENEFIT?

This project plans to address the security needs of Caltrans equipment yards and maintenance stations. These advanced security systems are expected to deter theft and streamline the process of alerting responding agencies to intruders at sites where these systems are deployed.

WHAT IS THE PROGRESS TO DATE?

A Research Panel Meeting was held in late February 2023 for the Advanced Highway Maintenance and Construction Technology (AHMCT) researchers to deliver updates and request a decision on installation methods.

The security system vendor performed a pre-installation site visit in March 2023 to verify system designs.

Next immediate steps are to discuss potential risks, finalize costs, and procurement. For the most current project information, please contact the task manager.